

CLAIMS

1. A pattern formation substrate on which a predetermined pattern is formed by ejecting a droplet to a targeted surface, said pattern formation substrate being characterized by comprising:

a first region where a contact angle at which the droplet contacts the targeted surface is a first contact angle, said first region being formed on the targeted surface; and

one or more second regions where the contact angle of the droplet is a second contact angle smaller than the first contact angle, said second region being formed on the targeted surface so as to be positioned adjacent to the first region, wherein

a surface of the second region is treated so that the droplet moves in a predetermined direction when the droplet is landed.

2. The pattern formation substrate as set forth in claim 1, wherein:

a first line width L_1 and a second line width L_2 are so adjusted as to satisfy an equation (1) below,

$$L_1 > D / \{1 + 2 (\cos\theta_2 - \cos\theta_1)\}$$

and

$$L_2 > D / \{1 + 2 (\cos\theta_2 - \cos\theta_1)\} \dots \dots \dots (1),$$

where:

the first line width L_1 is a width on a side, in the second region, toward which the droplet moves upon landing,

the second line width L_2 is a width on a side, in the second region, opposite to the side toward which the droplet moves,

θ_1 is the first contact angle of the droplet in the first region,

θ_2 is the second contact angle of the droplet in the second region, and

D is a diameter of the droplet.

3. The pattern formation substrate as set forth in claim 1, wherein:

each of the contact angles is so adjusted as to satisfy an equation (2) below,

$$L \times \{1 + 2 (\cos\theta_3 - \cos\theta_1)\} < D < L \times \{1 + 2(\cos\theta_2 - \cos\theta_1)\} \dots \dots \dots (2),$$

where:

θ_1 is the first contact angle of the first region with respect to the droplet,

θ_2 is the second contact angle of the second region with respect to one side of the droplet landed,

θ_3 is a third contact angle of the second region with

respect to another side of the droplet,

a line width L is a width of the second region, and

D is a diameter of the droplet; and

a position of the droplet being landed is targeted so as to overlap the first region and two of the second regions.

4. A method for forming a pattern, characterized by comprising the step of forming a predetermined pattern by ejecting a droplet to the pattern formation substrate as set forth in any one of claims 1 through 3.

5. The method as set forth in claim 4, wherein a continuous pattern is formed by connecting a plurality of droplets adhering to a targeted surface in a scattering-manner.

6. The method as set forth in claim 4, wherein an inkjet head is used for ejecting the droplet.

7. The method as set forth in claim 4, wherein the first and the second regions are formed substantially in a flat shape.

8. The method as set forth in claim 4, wherein the droplet contains an electrically conductive particle.